

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

1. (currently amended) An electric toothbrush comprising:
a brush head assembly;
a housing;
a frame enclosed by the housing;
a power supply contained within the housing;
an electric coil and core that is secured relative to the frame and electrically connected to the power supply through a control circuit that creates an alternating flow of current in the coil;
an elongated driveshaft having a distal end that is connected to the brush head assembly and an internal end that is disposed within the housing;
a torsion bar ~~is secured~~ clamped by an anchoring plate to the frame at a first end;
~~an armature~~ a magnet plate having first and second ends, the ~~armature magnet plate~~ magnet plate is connected to one of the torsion bar or the driveshaft;
at least one magnet arranged on the ~~armature magnet plate~~ magnet plate, the magnet being aligned relative to a central axis of the driveshaft, the magnet being located at a radially spaced location relative to the central axis of the shaft, wherein the alternating flow of current in the electric coil at a predetermined frequency causes the first and second ends of the ~~armature magnet plate~~ magnet plate to be alternately attracted to the coil and core causing the torsion bar to twist and causing the driveshaft to oscillate in an oscillatory rotary motion.
2. (original) The electric toothbrush of claim 1 wherein the frame is a one piece die casting to which the coil, torsion bar and a bearing that journals the internal end of the driveshaft are secured.
3. Cancelled.

4. (original) The electric toothbrush of claim 1 wherein a bearing journals the internal end of the elongated shaft for oscillating rotary movement and inhibits translational movement.

5. (original) The electric toothbrush of claim 1 wherein the brush head assembly has a driven shaft that is detachable from the driveshaft.

6. (original) The electric toothbrush of claim 5 wherein the brush head assembly may be detached from the driveshaft without opening the housing and without effecting the coil and magnets.

7.-8. Cancelled.

9. (currently amended) The electric toothbrush of claim 1 wherein said at least one magnet arranged on the ~~armature~~ magnet plate includes a first magnet and the ~~armature~~ magnet plate supporting the first and second magnets on a flat plate portion on which the first and second magnets are disposed and a flange extending perpendicularly relative to the flat plate portion, wherein the driveshaft is secured to the flange.

10. (original) The electric toothbrush of claim 1 further comprising a charging coil contained within the housing for recharging the power supply contained in the housing.

11. (original) The electric toothbrush of claim 10 in combination with a charging base, wherein a charging circuit is provided to charge the power supply, and wherein placing the electric toothbrush in the base ends an operating cycle.

12. (original) The electric toothbrush of claim 1 further comprising a single control switch that may be pressed multiple times to select one of a plurality of operational speeds.

13. (original) The electric toothbrush of claim 1 further comprising a plurality of LEDs that indicate at which speed the brush is operating.

14. (original) The electric toothbrush of claim 1 wherein the brush head assembly includes a plurality of bristles having bristle tips that oscillate with the elongated shaft, the bristle tips moving at a speed substantially less than 1.5 meters per second.

15.-16. Cancelled.

17. (currently amended) An electric toothbrush comprising:
a handle enclosing an electric coil that oscillates a driveshaft about a longitudinal axis, the drive shaft is fixedly secured to the handle at a first end by an elongated torsion bar that is coaxial with the driveshaft and clamped by an anchoring plate to the frame at the first end, the driveshaft is received in a bearing disposed in the handle at a second end of the driveshaft that oscillates in an oscillatory rotary motion relative to the handle; ~~and~~
a frame that is formed as a one piece die casting to which the coil, torsion bar and a bearing that journals the internal end of the driveshaft are secured; and
a brush head assembly removably secured to the handle, the brush head assembly having a driven shaft that is operatively secured to the second end of the driveshaft to oscillate with the driveshaft.

18.-19. Cancelled.

20. (currently amended) The electric toothbrush of claim 17 wherein a bearing journals the internal end of the ~~elongated shaft~~ driveshaft for oscillating rotary movement and inhibits translational movement.

21. (original) The electric toothbrush of claim 17 wherein the brush head assembly has a driven shaft that is detachable from the driveshaft.

22. (original) The electric toothbrush of claim 17 wherein the brush head assembly may be detached from the driveshaft without opening the housing and without effecting the coil, core, and magnets.

23.-24.Cancelled.

25. (currently amended) The electric toothbrush of claim 17 further comprising ~~an armature~~ a magnet plate supporting the first and second magnets, the ~~armature~~ magnet plate having a flat plate portion on which the first and second magnets are secured and a flange extending perpendicularly relative to the flat plate portion, wherein the driveshaft is secured to the flange.

26. (original) The electric toothbrush of claim 17 further comprising a charging coil contained within the housing for recharging the batteries contained in the housing.

27. (original) The electric toothbrush of claim 26 in combination with a charging base, wherein a charging circuit is provided to charge the batteries, and wherein placing the electric toothbrush in the base ends an operating cycle.

28. (original) The electric toothbrush of claim 17 further comprising a single control switch that may be pressed multiple times to select one of a plurality of operational speeds.

29. (original) The electric toothbrush of claim 17 further comprising a plurality of LEDs that indicate the speed at which the brush is operating.

30. (original) The electric toothbrush of claim 17 wherein the brush head assembly includes a plurality of bristles having bristle tips that oscillate with the elongated shaft, the bristle tips moving at less than 1.4 meters per second.

31.-34. Cancelled.

35. (New) An electric toothbrush comprising:

a brush head assembly;

a housing;

a frame enclosed by the housing;

a power supply contained within the housing;

an electric coil and core that is secured relative to the frame and electrically connected to the power supply through a control circuit that creates an alternating flow of current in the coil;

an elongated driveshaft having a distal end that is connected to the brush head assembly and an internal end that is disposed within the housing;

a torsion bar is secured to the frame at a first end;

a magnet plate having first and second ends, the magnet plate is connected to one of the torsion bar or the driveshaft;

at least one magnet arranged on the magnet plate, the magnet being aligned relative to a central axis of the driveshaft, the magnet being located at a radially spaced location relative to the central axis of the shaft, wherein the alternating flow of current in the electric coil at a predetermined frequency causes the first and second ends of the magnet plate to be alternately attracted to the coil and core causing the torsion bar to twist and causing the driveshaft to oscillate in an oscillatory rotary motion, wherein said at least one magnet arranged on the magnet plate includes a first magnet and a second magnet, and wherein the torsion bar is secured to the magnet plate between the first and second magnets and the driveshaft is connected at the internal end thereof to the magnet plate.

36. (New) An electric toothbrush comprising:

a handle enclosing an electric coil that oscillates a driveshaft about a longitudinal axis, the drive shaft is fixedly secured to the handle at a first end by an elongated torsion bar that is coaxial with the driveshaft and secured to a magnet plate between a first magnet and a second magnet, the driveshaft connected at an internal end thereof to the magnet plate, the driveshaft is received in a bearing disposed in the handle at a second end of the driveshaft that oscillates in an oscillatory rotary motion relative to the handle; and

a brush head assembly removably secured to the handle, the brush head assembly having a driven shaft that is operatively secured to the second end of the driveshaft to oscillate with the driveshaft.